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Table of Period Generators

L. D. Baumert

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ABSTRACT

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A table of logics for digital count-down circuits of periods 4 through 2047 is given. In addition, a complete exposition of the underlying theoretical results and a brief discussion of applications is also presented.

I. PRELIMINARIES

The period generators tabulated at the end of this Report are all based upon a device known as a *shift register*. A *shift register of degree n* is a device consisting of n consecutive 2-state memory units regulated by a single clock. At each clock pulse the state (one or zero) of each memory stage is shifted to the next stage in line. A shift register can be converted into a sequence generator by including a feedback loop, which computes a new term for the first stage based on the n previous terms.

Two standard types of shift-register sequence generators are the *internal* (or *direct logic*) type and the *external* (or *indirect logic*) type. A *direct logic sequence generator* is shown in Fig. 1. This register generates the sequence 1 0 0 0 1 0 0 1 1 0 1 0 1 1, as can be seen by considering the successive states of a fixed stage. The feedback logic indicates that the sequence satisfies the recursion formula $X_n = X_{n-3} \oplus X_{n-4}$, where \oplus designates modulo 2 addition. An *indirect logic sequence generator* for the sequence 0 0 0 0 0 0 0 1 0 1 0 1 1 0 is shown in Fig. 2. Here the direct logic produces the sequence 1 0 0 0 1 0 0 1 1 0 1 0 1 1 1, which appears in the register. The desired sequence is then derived from this sequence by the indirect logic.

The contents of all the stages of an n -stage shift register form a binary n -tuple. This n -tuple changes with

time under the control of the feedback logic. A diagram showing the relationship of these n -tuples is called a *state diagram*. If a 3-stage register has the feedback function $X_n = X_{n-2} X_{n-3}$, then its state diagram is as shown in Fig. 3. The vectors occurring in a state diagram can be interpreted as binary integers and thus their decimal or octal equivalents can be used to condense the notation.

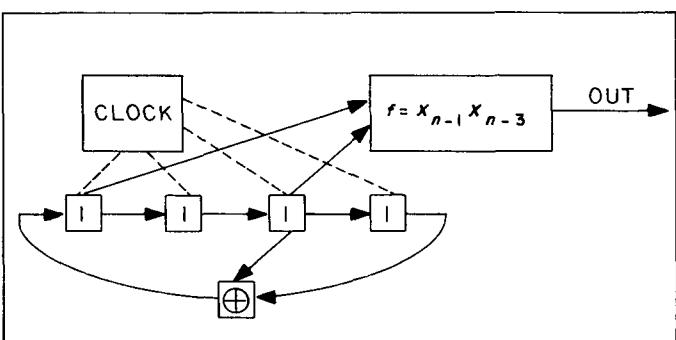


Fig. 2. Indirect logic sequence generator

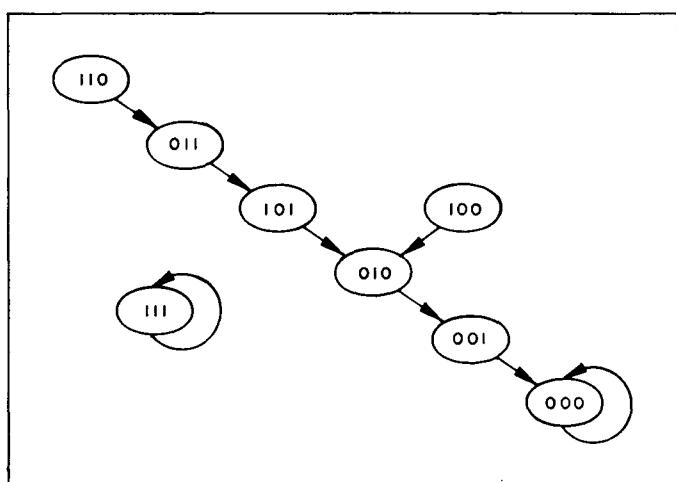
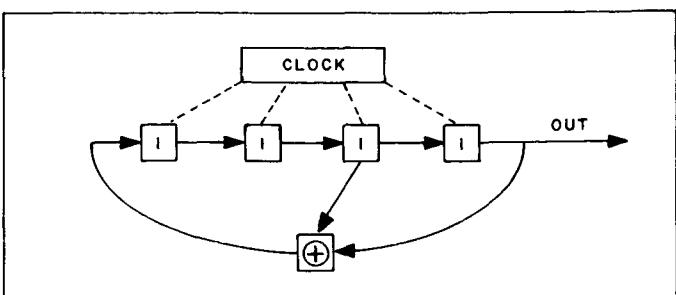


Fig. 1. Direct logic sequence generator

Fig. 3. State diagram



II. APPLICATIONS

In synchronous digital machines it is often necessary to count the basic clock frequency down by a factor of j . While it is always possible to do this with a counter, it usually takes less equipment to generate a shift-register sequence of period j and use it for counting. Another

application arises in the indirect logic type of sequence generation discussed in Section I. If the sequence to be generated has period j , then a period generator for that period is selected and the desired sequence is derived from it by means of the external logic.

III. THEORETICAL CONSIDERATIONS

The theory behind the method of period generation described in this Report is that of *linear recurring sequences* (Ref. 1, 2). Specifically, it should be noted that there exist *linear* (i.e., modulo 2) logics which when used as direct logic for an n -stage shift register generate sequences of periodicity $2^n - 1$. Furthermore, these sequences possess the *delay-and-add* property; i.e., if the sequence is added term-by-term modulo 2 to a cyclic shift of itself, the resulting sequence is another cyclic shift of the original sequence. An example of such a sequence having period $2^3 - 1 = 7$ is 1 1 1 0 1 0 0. The connection between linear recurring sequences and the delay-and-add property is formalized as follows (Ref. 1):

Theorem 1. a_1, a_2, \dots, a_p is a sequence of ones and zeros ($a_i = 1$ for some i) with the delay-and-add property, if, and only if, $p = 2^n - 1$ and a_1, a_2, \dots, a_p satisfies a linear recursion relation

$$a_k = \sum_{i=1}^n c_i a_{k-i}$$

for all k , where subscripts are considered modulo p , the coefficients c_i are 0 or 1, and the summation is modulo 2.

Proof. If (a_i) satisfies a linear recurrence relation of degree n , i.e., if

$$a_k = \sum_{i=1}^n c_i a_{k-i}$$

then a_k is uniquely determined by $a_{k-1}, a_{k-2}, \dots, a_{k-n}$. Since any binary sequence of length greater than 2^n must contain the same n -tuple more than once, no recurring sequence of length greater than 2^n satisfies a recurrence of degree n . Further, if the recurrence is linear, then 00...0 is always followed by itself. Thus a linear recurring sequence of degree n is of period $p \leq 2^n - 1$. If $p = 2^n - 1$, then every n -tuple except 0...0 must appear in the sequence. Since each cyclic shift S_n of such a sequence satisfies the same linear recurrence, so does $S_i \oplus S_j$ by linearity. If $S_i \neq S_j$, the sum is a sequence of zeros and ones of period $2^n - 1$ satisfying the recursion relation, i.e., necessarily S_m for some m .

On the other hand, let (a_i) ($\neq 0 \dots 0$) be a sequence of ones and zeros satisfying the delay-and-add property. Adjoin $S_0 = (0, \dots, 0)$ to the shifts S_m ($1 \leq m \leq p$). Then S_0, S_1, \dots, S_p form an Abelian group under termwise addition modulo 2, in which every element is its own inverse. By the "Fundamental Theorem of Abelian Groups" (Ref. 3) such a group is necessarily of order 2^n , i.e., $p = 2^n - 1$. The sequences S_1, S_2, \dots, S_n are linearly independent since dependence would imply a recursion of degree $< n$, which has been shown to be impossible for a sequence of length $2^n - 1$. Linear independence implies that for all 2^n choices of coefficients c_1, c_2, \dots, c_n , the sum sequences

$$\sum_{i=1}^n c_i S_i$$

are distinct. But by the delay-and-add property these sum sequences are chosen from S_0, S_1, \dots, S_p . Thus each of S_0, S_1, \dots, S_p has a unique representation in the form

$$\sum_{i=1}^n c_i S_i$$

Thus, in particular,

$$S_{n+1} = \sum_{i=1}^n c_i S_i$$

for some choice of c_i , but this implies the recursion relation

$$a_k = \sum_{i=1}^n c_i a_{k-i}$$

for this particular choice of the c_i .

The above results will be used to prove the following theorem (Ref. 4):

Theorem 2. All periods from 1 to 2^n can be obtained from an n -stage shift register.

Proof. Let (a_k) be a linear recurring sequence of period $2^n - 1$. Such a sequence contains all n -tuples except $0 \dots 0$. To find a cycle of period p , for $1 \leq p \leq 2^n - 2$, consider the modulo 2 sum $(a_k) \oplus (a_{k+p})$. By the delay-and-add property of these sequences, there exists an integer M , such that $(a_k) \oplus (a_{k+p}) = (a_{k+M})$, where (a_{k+M}) is a phase shift of (a_k) . Since every set of n consecutive bits, except n zeros, occurs in (a_{k+M}) , the vector $0 \dots 0 1$ occurs somewhere in the sequence (say, from a_{k_0+M+1} to a_{k_0+M+n}). This implies that

$$a_{k_0+1} = a_{k_0+p+1}$$

$$a_{k_0+2} = a_{k_0+p+2}$$

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$$a_{k_0+n-1} = a_{k_0+p+n-1}$$

$$a_{k_0+n} = a_{k_0+p+n} \oplus 1$$

Thus these are two n -symbol subsequences of (a_k) , spaced p positions apart, which agree in their first $n - 1$ positions, but disagree in the n th position. Thus the logical function (a large AND-gate) is constructed which has a one output if, and only if, it detects $a_{k_0+n-1}, \dots, a_{k_0+2}, a_{k_0+1}$ in positions x_{n-1}, \dots, x_1 of the shift register. The output of this logical function is added modulo 2 to the original feedback function. This splits the sequence

of period $2^n - 1$ into two parts, one of period p and the other of period $2^n - 1 - p$. This completes the proof for $1 \leq p \leq 2^n - 2$; as far as $2^n - 1$ and 2^n are concerned, the original sequence has period $2^n - 1$, and period 2^n is achieved by modulo 2 adding the logical function which detects $0 \dots 0$ as above.

As an example of this process, let $p = 11$. Since $2^3 = 8 < p < 16 = 2^4$, n need be no larger than 4. $X_n = X_{n-3} \oplus X_{n-4}$ generates a sequence $0\ 0\ 0\ 1\ 0\ 0\ 1\ 1\ 0\ 1\ 0\ 1\ 1\ 1\ 1$ of length $15 = 2^4 - 1$. Termwise addition modulo 2 of an 11 shift to itself gives

$$(a_k) = 0\ 0\ 0\ 1\ 0\ 0\ 1\ 1\ 0\ 1\ 0\ 1\ 1\ 1\ 1$$

$$(a_{k+11}) = \underline{1\ 1\ 1\ 1\ 0\ 0\ 0\ 1\ 0\ 0\ 1\ 1\ 0\ 1\ 0}$$

$$(a_k) \oplus (a_{k+11}) = 1\ 1\ 1\ \underline{0\ 0\ 0\ 1\ 0\ 0\ 1\ 1\ 0\ 1\ 0\ 1\ 1}$$

Thus $a_{k_0+1} = 1, a_{k_0+2} = a_{k_0+3} = 0$. The logical function detecting this in the shift register is $\overline{X_{n-1}} \overline{X_{n-2}} X_{n-3}$. Thus the logic for a period of 11 is

$$X_n = \overline{X_{n-1}} \overline{X_{n-2}} X_{n-3} \oplus X_{n-3} \oplus X_{n-4}$$

For a period $p = 16$ the detector should be $\overline{X_{n-1}} \overline{X_{n-2}} \overline{X_{n-3}}$, giving a logic of

$$X_n = \overline{X_{n-1}} \overline{X_{n-2}} \overline{X_{n-3}} \oplus X_{n-3} \oplus X_{n-4}$$

This process is examined in terms of the associated state diagrams which follow. The basic recursion formula $X_n = X_{n-3} \oplus X_{n-4}$ generates the sequence $0\ 0\ 0\ 1\ 0\ 0\ 1\ 1\ 0\ 1\ 0\ 1\ 1\ 1\ 1$ and has the state diagram shown in Fig. 4. For the sequence of period 11, the addition of the word detector $\overline{X_{n-1}} \overline{X_{n-2}} X_{n-3}$ serves to split the main cycle Fig. 4 into two pieces, as shown in Fig. 5. As for the sequence of period 16, the effect of the term $\overline{X_{n-1}} \overline{X_{n-2}} \overline{X_{n-3}}$ on the state diagram of Fig. 4 is to break the transitions $1 \rightarrow 8, 0 \rightarrow 0$ and replace them with $1 \rightarrow 0, 0 \rightarrow 8$, respectively.

In many applications a state diagram like Fig. 5 (having three isolated loops) is undesirable. The state diagram sought in these cases is (for this example) shown in Fig. 6. The important features of this state diagram (called a *bush*) are that it has a closed loop (the period-generating loop) of period 11, and that all states of the register lead into the period-generating loop. This means, among other things, that the period generator is self-starting. All of the period generators arising from Theorem 2 can be constrained to have such a state diagram. In the example of period 11 this is done by realizing that of the two transitions $2 \rightarrow 1, 3 \rightarrow 9$ introduced by the term $\overline{X_{n-1}} \overline{X_{n-2}} X_{n-3}$, only $3 \rightarrow 9$ is desired. Altering the term to achieve this gives $\overline{X_{n-1}} \overline{X_{n-2}} X_{n-3} X_{n-4}$ as in the logic of Fig. 6. The additional entry $\overline{X_{n-1}} \overline{X_{n-2}} \overline{X_{n-3}} \overline{X_{n-4}}$ serves only to adjoin the state 0 to the bush.

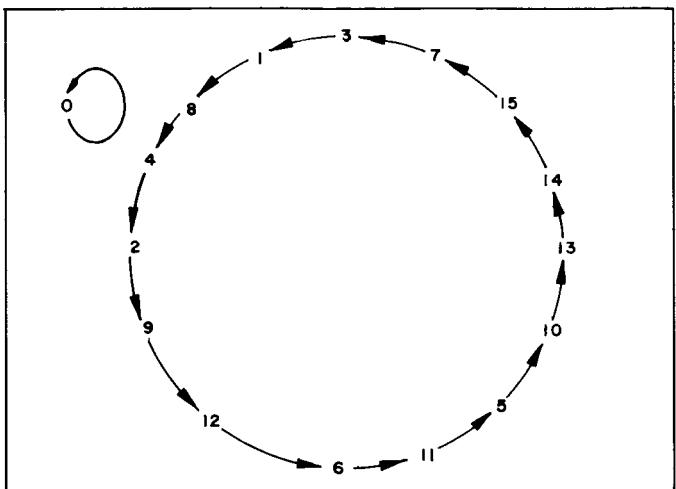


Fig. 4. State diagram for $X_n = X_{n-3} \oplus X_{n-4}$

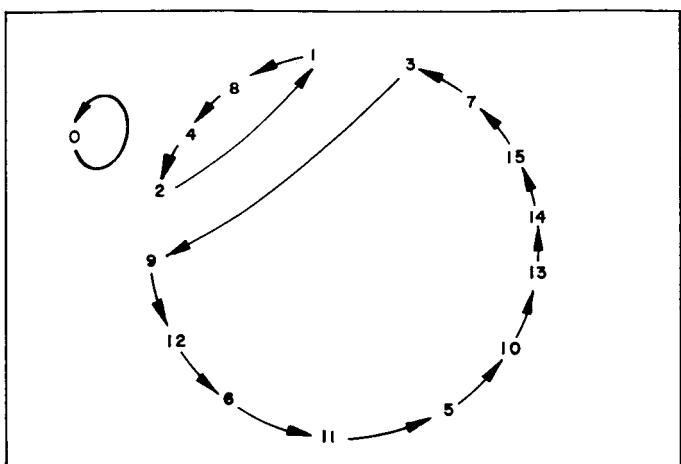
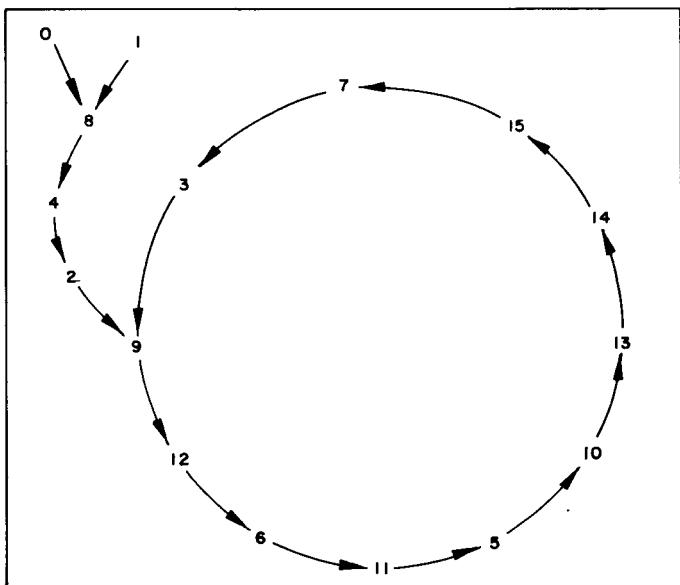


Fig. 5. State diagram for $X_n =$



$$\text{Fig. 6. State diagram for } X_n = \overline{X_{n-1} X_{n-2} X_{n-3} X_{n-4}} \oplus \overline{X_{n-1} X_{n-2} X_{n-3} X_{n-4}} \\ \oplus \overline{X_{n-3}} \oplus \overline{X_{n-4}}$$

IV. USE OF THE TABLE

In Section III the theory behind the Table of Period Generators (given at the end of this Report) was discussed; however, the practical consideration of timing was not mentioned. For purposes of standardization the Table was constructed for use by a shift register consistent with Fig. 7. Here $\ominus\bullet$ stands for a delay of one clock period (a "unit" delay), and all delays assumed are explicitly shown.

The Table itself contains three columns per entry; the first column indicates the periodicity desired, the second column contains the exponents (or tap positions), and the third column indicates the word to be detected. For example, if the periodicity is 51 the entry is

51 6, 5. 0 0 1 1 1 1

indicating a basic recursion formula of $X_n = X_{n-5} \oplus X_{n-6}$ and a word detector of $\overline{X_{n-1}} \ \overline{X_{n-2}} \ X_{n-3} \ X_{n-4} \ X_{n-5} \ X_{n-6}$. The associated shift register is shown in Fig. 8, and its state diagram (Section I) is similar to that of Fig. 6 (except that state 0 has not yet been attached).

In sequence generation (Section I) it is sometimes desired to change the phase of the generated sequence by one clock period. This can be done by skipping a state or repeating a state during one of the periods of the generator. In indirect generation this process is applied to the direct (or internal) logic, i.e., to the period generator. Perhaps the easiest states to use for this are 1 ... 10, 1 ... 1, 01 ... 1. For that reason the Table indicates by

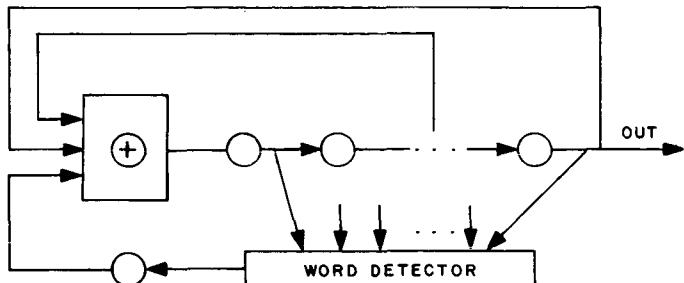


Fig. 7. General period generator

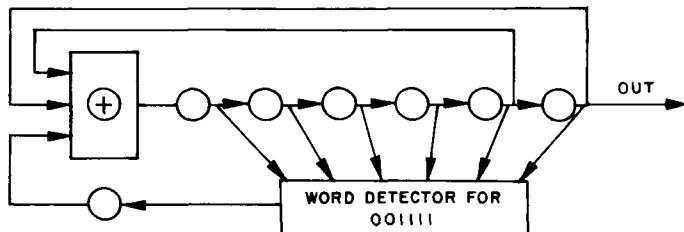


Fig. 8. Generator for period $p = 51$

a star (*) the absence of one or more of these vectors from the period-generating cycle.

The entries for periods $2^3 - 1 = 7$, $2^4 - 1 = 15$, ... do not have a word indicated. This means that the basic recursion formula generates a sequence of the desired periodicity. In this case the vectors 1...10, 1...1, 01...1 do occur on the cycle.

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4. Golomb, S. W., L. R. Welch, and R. M. Goldstein, *Cycles from Nonlinear Shift Registers*, Progress Report No. 20-389, Jet Propulsion Laboratory, Pasadena, August 31, 1959.

Table of Period Generators¹

Periodicity	Exponents	Word	Periodicity	Exponents	Word
4	3, 2.	111	54	6, 5.	110010
5	3, 2.	001	55	6, 5.	010100
6	3, 2.	*101	56	6, 5.	110100
7	3, 2.		57	6, 5.	000111
8	4, 3.	*1100	58	6, 5.	000001
9	4, 3.	1000	59	6, 5.	101101
10	4, 3.	1001	60	6, 5.	100111
11	4, 3.	0111	61	6, 5.	010110
12	4, 3.	0001	62	6, 5.	*111101
13	4, 3.	0110	63	6, 5.	
14	4, 3.	*1101	64	7, 6.	0011111
15	4, 3.		65	7, 3.	1000010
16	5, 3.	*10100	66	7, 6.	0111001
17	5, 3.	00011	67	7, 6.	0100000
18	5, 3.	00111	68	7, 6.	1111000
19	5, 3.	*11010	69	7, 6.	*1000110
20	5, 3.	*11001	70	7, 6.	*1001110
21	5, 3.	01011	71	7, 3.	0001100
22	5, 3.	11111	72	7, 3.	1000001
23	5, 3.	*10011	73	7, 6.	1111111
24	5, 3.	*01101	74	7, 6.	*0011001
25	5, 3.	00100	75	7, 6.	0110100
26	5, 3.	01010	76	7, 3.	0011011
27	5, 3.	01100	77	7, 6.	0010101
28	5, 3.	10000	78	7, 6.	0001000
29	5, 3.	10111	79	7, 6.	1000001
30	5, 3.	*11100	80	7, 3.	0110111
31	5, 3.		81	7, 3.	0101111
32	6, 5.	*011100	82	7, 6.	0111000
33	6, 5.	100101	83	7, 6.	1101000
34	6, 5.	010000	84	7, 3.	0111111
35	6, 5.	101111	85	7, 6.	0000110
36	6, 5.	*011011	86	7, 6.	0101111
37	6, 5.	*111010	87	7, 6.	1010110
38	6, 5.	*101011	88	7, 6.	0100111
39	6, 5.	111111	89	7, 6.	1100100
40	6, 5.	*110011	90	7, 6.	1110110
41	6, 5.	010001	91	7, 6.	1100010
42	6, 5.	011110	92	7, 6.	0010100
43	6, 5.	001000	93	7, 6.	0101110
44	6, 5.	100001	94	7, 6.	0111110
45	6, 5.	101001	95	7, 6.	1000100
46	6, 5.	001010	96	7, 3.	0000011
47	6, 5.	001110	97	7, 6.	1001000
48	6, 5.	110110	98	7, 3.	1011010
49	6, 5.	000110	99	7, 6.	0111111
50	6, 5.	111000	100	7, 6.	0001110
51	6, 5.	001111	101	7, 6.	0101000
52	6, 5.	011010	102	7, 6.	1110001
53	6, 5.	100000	103	7, 6.	0010000

¹Throughout the Table, the star (*) before a number indicates the absence of one or more of the vectors 1...10, 1...1, 01...1 from the period-generating cycle.

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
104	7, 6.	1001010	154	9, 5.	*001001110
105	7, 6.	1101101	155	9, 5.	000001111
106	7, 6.	0110010	156	9, 5.	*100010101
107	7, 6.	1110011	157	9, 5.	101001000
108	7, 6.	1101001	158	9, 5.	*001110110
109	7, 6.	1011011	159	9, 5.	*100000011
110	7, 6.	1011110	160	9, 5.	*000001110
111	7, 6.	0100001	161	9, 5.	*110010110
112	7, 6.	0100101	162	9, 5.	001010010
113	7, 6.	0001111	163	9, 5.	*001010110
114	7, 6.	1101100	164	9, 5.	010010101
115	7, 6.	1000000	165	9, 5.	*101101000
116	7, 6.	1011100	166	9, 5.	*100110110
117	7, 6.	0001010	167	9, 5.	*001111110
118	7, 6.	1100110	168	9, 5.	*100111101
119	7, 6.	1011001	169	9, 5.	001111000
120	7, 6.	0000111	170	9, 5.	001000111
121	7, 6.	0000001	171	9, 5.	*110001100
122	7, 6.	0110110	172	9, 5.	*111011011
123	7, 6.	1110100	173	9, 5.	100001101
124	7, 6.	0010001	174	9, 5.	111010101
125	7, 6.	0101001	175	9, 5.	*011000001
126	7, 6.	*1111101	176	9, 5.	*000101011
127	7, 6.		177	9, 5.	100000111
128	9, 5.	*101101111	178	9, 5.	*001111011
129	9, 5.	*000000011	179	9, 5.	*111100001
130	9, 5.	*000000110	180	9, 5.	011100010
131	9, 5.	*110110111	181	9, 5.	*011000101
132	9, 5.	011100101	182	9, 5.	010001000
133	9, 5.	*101011110	183	9, 5.	*010010010
134	9, 5.	*011001010	184	9, 5.	111101100
135	9, 5.	*110001010	185	9, 5.	100000100
136	9, 5.	001110001	186	9, 5.	*010011011
137	9, 5.	*001101000	187	9, 5.	1000001100
138	9, 5.	*001100110	188	9, 5.	000010000
139	9, 5.	*010111010	189	9, 5.	*111010000
140	9, 5.	*011010000	190	9, 5.	*011100001
141	9, 5.	001001010	191	9, 5.	*000101010
142	9, 5.	*101011001	192	9, 5.	110111100
143	9, 5.	*011011101	193	9, 5.	*101000000
144	9, 5.	*111100101	194	9, 5.	*001100001
145	9, 5.	*110011000	195	9, 5.	*100100101
146	9, 5.	*011010110	196	9, 5.	*000110111
147	9, 5.	*000110000	197	9, 5.	011100100
148	9, 5.	*011010111	198	9, 5.	*101010010
149	9, 5.	110011110	199	9, 5.	*011000010
150	9, 5.	*100101110	200	9, 5.	*010100000
151	9, 5.	*010110101	201	9, 5.	100101010
152	9, 5.	*000101100	202	9, 5.	*100101011
153	9, 5.	111110111	203	9, 5.	*010101110

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
204	9, 5.	110111001	254	9, 5.	*001011100
205	9, 5.	001110101	255	9, 5.	111001111
206	9, 5.	000111110	256	9, 5.	*111001101
207	9, 5.	000001001	257	9, 5.	001011110
208	9, 5.	011110110	258	9, 5.	*100000010
209	9, 5.	*010110011	259	9, 5.	011011000
210	9, 5.	010101000	260	9, 5.	*000001010
211	9, 5.	*001001011	261	9, 5.	010011100
212	9, 5.	*100110000	262	9, 5.	*011110011
213	9, 5.	111110010	263	9, 5.	*111110001
214	9, 5.	*111000110	264	9, 5.	*110111101
215	9, 5.	0000010100	265	9, 5.	*101111001
216	9, 5.	*111101101	266	9, 5.	101100100
217	9, 5.	110101011	267	9, 5.	*001101101
218	9, 5.	110000110	268	9, 5.	*010110100
219	9, 5.	*1000010100	269	9, 5.	*111000111
220	9, 5.	*001100101	270	9, 5.	*001110000
221	9, 5.	*111111000	271	9, 5.	010100111
222	9, 5.	*010101011	272	9, 5.	000101101
223	9, 5.	111111111	273	9, 5.	100110011
224	9, 5.	*011001100	274	9, 5.	*010000111
225	9, 5.	*000110100	275	9, 5.	*101000101
226	9, 5.	110010000	276	9, 5.	*010101111
227	9, 5.	001101100	277	9, 5.	010010011
228	9, 5.	*111001001	278	9, 5.	110011001
229	9, 5.	*010100110	279	9, 5.	011111111
230	9, 5.	*011101110	280	9, 5.	100011100
231	9, 5.	*100011110	281	9, 5.	011101100
232	9, 5.	*011111101	282	9, 5.	010100100
233	9, 5.	*110011011	283	9, 5.	111001011
234	9, 5.	*010010001	284	9, 5.	*001101110
235	9, 5.	010101101	285	9, 5.	*110010010
236	9, 5.	101000111	286	9, 5.	000110110
237	9, 5.	010000101	287	9, 5.	011001110
238	9, 5.	*100110001	288	9, 5.	*111111101
239	9, 5.	*000101111	289	9, 5.	010101001
240	9, 5.	*010100101	290	9, 5.	111111010
241	9, 5.	001110010	291	9, 5.	001100111
242	9, 5.	111000101	292	9, 5.	100010110
243	9, 5.	010110110	293	9, 5.	*110000100
244	9, 5.	001101111	294	9, 5.	*110101001
245	9, 5.	*101100110	295	9, 5.	111101111
246	9, 5.	101111011	296	9, 5.	*000010110
247	9, 5.	110111111	297	9, 5.	111000100
248	9, 5.	111110011	298	9, 5.	*111110000
249	9, 5.	011110001	299	9, 5.	100110010
250	9, 5.	*010011110	300	9, 5.	001001001
251	9, 5.	000001000	301	9, 5.	*010101010
252	9, 5.	*011011010	302	9, 5.	010110001
253	9, 5.	100000000	303	9, 5.	*011110100

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
304	9, 5.	*000001011	354	9, 5.	*101001010
305	9, 5.	*000111100	355	9, 5.	100010111
306	9, 5.	*001110111	356	9, 5.	*000001101
307	9, 5.	*110111011	357	9, 5.	001001100
308	9, 5.	010101100	358	9, 5.	*111110101
309	9, 5.	100101001	359	9, 5.	000101110
310	9, 5.	*100101000	360	9, 5.	010110111
311	9, 5.	010100010	361	9, 5.	100101100
312	9, 5.	011000000	362	9, 5.	*110011100
313	9, 5.	101010000	363	9, 5.	011010101
314	9, 5.	*011100110	364	9, 5.	000110010
315	9, 5.	000110101	365	9, 5.	011010100
316	9, 5.	100100111	366	9, 5.	110011010
317	9, 5.	001100011	367	9, 5.	111100111
318	9, 5.	101000010	368	9, 5.	011011111
319	9, 5.	*110111110	369	9, 5.	101011011
320	9, 5.	000101000	370	9, 5.	*001001000
321	9, 5.	011100011	371	9, 5.	011010010
322	9, 5.	111010010	372	9, 5.	010111000
323	9, 5.	*000010010	373	9, 5.	001100100
324	9, 5.	*100001110	374	9, 5.	001101010
325	9, 5.	010011001	375	9, 5.	*001110011
326	9, 5.	*100000110	376	9, 5.	110001000
327	9, 5.	*111101110	377	9, 5.	011001000
328	9, 5.	010010000	378	9, 5.	101011100
329	9, 5.	*010001010	379	9, 5.	*011100111
330	9, 5.	011000111	380	9, 5.	110110101
331	9, 5.	*011100000	381	9, 5.	000000100
332	9, 5.	111100011	382	9, 5.	000000001
333	9, 5.	001111001	383	9, 5.	101101101
334	9, 5.	*100000101	384	9, 5.	*111010011
335	9, 5.	000101001	385	9, 5.	110010001
336	9, 5.	011000011	386	9, 5.	011000100
337	9, 5.	*111010111	387	9, 5.	110110100
338	9, 5.	*100001111	388	9, 5.	110100101
339	9, 5.	111011001	389	9, 5.	101110001
340	9, 5.	110001110	390	9, 5.	101101001
341	9, 5.	*001000101	391	9, 5.	001100010
342	9, 5.	*001111010	392	9, 5.	010100011
343	9, 5.	100111111	393	9, 5.	101111110
344	9, 5.	001111100	394	9, 5.	010111101
345	9, 5.	100110100	395	9, 5.	111100110
346	9, 5.	101101010	396	9, 5.	101001110
347	9, 5.	*010010111	397	9, 5.	*100111000
348	9, 5.	001010100	398	9, 5.	010010110
349	9, 5.	*001010000	399	9, 5.	101000110
350	9, 5.	110010100	400	9, 5.	000110001
351	9, 5.	000001100	401	9, 5.	101110111
352	9, 5.	100000001	402	9, 5.	001000001
353	9, 5.	001110100	403	9, 5.	101100111

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
404	9, 5.	101000001	454	9, 5.	010001111
405	9, 5.	010001001	455	9, 5.	101010110
406	9, 5.	000011001	456	9, 5.	111110110
407	9, 5.	111001010	457	9, 5.	101110110
408	9, 5.	*011011011	458	9, 5.	000111011
409	9, 5.	010110010	459	9, 5.	100010010
410	9, 5.	000100101	460	9, 5.	010011101
411	9, 5.	*000011101	461	9, 5.	011111011
412	9, 5.	*110000001	462	9, 5.	111100000
413	9, 5.	011110101	463	9, 5.	101101110
414	9, 5.	*100100010	464	9, 5.	000010111
415	9, 5.	*011001101	465	9, 5.	*101111010
416	9, 5.	100110111	466	9, 5.	011111000
417	9, 5.	010000010	467	9, 5.	001011111
418	9, 5.	010111011	468	9, 5.	010011000
419	9, 5.	101001101	469	9, 5.	110011101
420	9, 5.	000010011	470	9, 5.	100011011
421	9, 5.	100011111	471	9, 5.	110101010
422	9, 5.	110100100	472	9, 5.	111001110
423	9, 5.	*000100100	473	9, 5.	110101110
424	9, 5.	111101001	474	9, 5.	100011000
425	9, 5.	110111010	475	9, 5.	100100011
426	9, 5.	101111111	476	9, 5.	011101001
427	9, 5.	*011110010	477	9, 5.	000011100
428	9, 5.	*011011110	478	9, 5.	100001001
429	9, 5.	011101000	479	9, 5.	110001011
430	9, 5.	110000000	480	9, 5.	100111001
431	9, 5.	001010001	481	9, 5.	000000101
432	9, 5.	111011111	482	9, 5.	100101111
433	9, 5.	011111100	483	9, 5.	111010110
434	9, 5.	101010001	484	9, 5.	*111011100
435	9, 5.	*001011001	485	9, 5.	010000011
436	9, 5.	001011010	486	9, 5.	110110011
437	9, 5.	111101010	487	9, 5.	101011000
438	9, 5.	111000000	488	9, 5.	110001101
439	9, 5.	101100011	489	9, 5.	111111001
440	9, 5.	110101101	490	9, 5.	011101111
441	9, 5.	110010111	491	9, 5.	000011000
442	9, 5.	101011111	492	9, 5.	001001101
443	9, 5.	110100010	493	9, 5.	000100011
444	9, 5.	100010001	494	9, 5.	011010001
445	9, 5.	101100010	495	9, 5.	000111000
446	9, 5.	001010101	496	9, 5.	001111111
447	9, 5.	*101110000	497	9, 5.	*111000011
448	9, 5.	010111110	498	9, 5.	*000111101
449	9, 5.	011001011	499	9, 5.	110000101
450	9, 5.	*110100001	500	9, 5.	110110000
451	9, 5.	100001000	501	9, 5.	010000100
452	9, 5.	111011000	502	9, 5.	000100010
453	9, 5.	101001001	503	9, 5.	010001110

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
504	9, 5.	100111100	554	10, 7.	1100101000
505	9, 5.	001101011	555	10, 7.	*1100100010
506	9, 5.	001000000	556	10, 7.	1110000000
507	9, 5.	001000110	557	10, 7.	*0101011101
508	9, 5.	100100110	558	10, 7.	*1110101101
509	9, 5.	101010111	559	10, 7.	0000010110
510	9, 5.	*111111100	560	10, 7.	1101101100
511	9, 5.		561	10, 7.	1111000100
512	10, 7.	0011111001	562	10, 7.	1101100011
513	10, 7.	*0001001011	563	10, 7.	*0011111100
514	10, 7.	*1000010001	564	10, 7.	*1100110100
515	10, 7.	0001000000	565	10, 7.	1101011011
516	10, 7.	1110100011	566	10, 7.	*1111001110
517	10, 7.	0110010111	567	10, 7.	1011110011
518	10, 7.	1010111111	568	10, 7.	*1010010010
519	10, 7.	0111101111	569	10, 7.	0001010000
520	10, 7.	*1111101010	570	10, 7.	1010101100
521	10, 7.	*0001000101	571	10, 7.	1001010001
522	10, 7.	*1011111111	572	10, 7.	*1010001111
523	10, 7.	*1100100001	573	10, 7.	1000011001
524	10, 7.	*0011001011	574	10, 7.	*1011101001
525	10, 7.	0010101100	575	10, 7.	1101001001
526	10, 7.	1110111000	576	10, 7.	1001101101
527	10, 7.	0010110110	577	10, 7.	1110001011
528	10, 7.	1000001101	578	10, 7.	0101000101
529	10, 7.	1111000011	579	10, 7.	*0000110001
530	10, 7.	0001110000	580	10, 7.	0010001000
531	10, 7.	0100111100	581	10, 7.	*1000001011
532	10, 7.	*0110000001	582	10, 7.	0100010011
533	10, 7.	*1001111101	583	10, 7.	1011100011
534	10, 7.	1011000001	584	10, 7.	0010000101
535	10, 7.	*1001000110	585	10, 7.	*1000110010
536	10, 7.	0000010101	586	10, 7.	1101011110
537	10, 7.	*1001001110	587	10, 7.	*0011001010
538	10, 7.	*0001010011	588	10, 7.	*0010110000
539	10, 7.	*1100000010	589	10, 7.	*0001110001
540	10, 7.	1010011110	590	10, 7.	1000110100
541	10, 7.	*1011011100	591	10, 7.	*1001100110
542	10, 7.	*0111100011	592	10, 7.	1010111010
543	10, 7.	0101001000	593	10, 7.	*0001100010
544	10, 7.	*0101100011	594	10, 7.	1010100010
545	10, 7.	0111110010	595	10, 7.	*1011111110
546	10, 7.	*0001111101	596	10, 7.	0010111101
547	10, 7.	1011010000	597	10, 7.	*0111010100
548	10, 7.	1101100111	598	10, 7.	1100101111
549	10, 7.	0001101101	599	10, 7.	1111010001
550	10, 7.	0100001011	600	10, 7.	1000100011
551	10, 7.	1101110001	601	10, 7.	1101010000
552	10, 7.	1001010110	602	10, 7.	*1001100010
553	10, 7.	*0100011110	603	10, 7.	*1101111011

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
604	10, 7.	0100100111	654	10, 7.	1010000001
605	10, 7.	1001100011	655	10, 7.	*0001001010
606	10, 7.	1010000110	656	10, 7.	1011101000
607	10, 7.	1110111110	657	10, 7.	0100111001
608	10, 7.	*0000001010	658	10, 7.	0101110110
609	10, 7.	0101100101	659	10, 7.	*1010010001
610	10, 7.	*1110010011	660	10, 7.	*0011000101
611	10, 7.	0111111000	661	10, 7.	0110101000
612	10, 7.	*0001011111	662	10, 7.	0101000000
613	10, 7.	1011110110	663	10, 7.	0011000001
614	10, 7.	1100010100	664	10, 7.	0110111100
615	10, 7.	1010101000	665	10, 7.	1011110000
616	10, 7.	*1001001011	666	10, 7.	*0001111010
617	10, 7.	1100110000	667	10, 7.	0101101101
618	10, 7.	1111110011	668	10, 7.	1111011100
619	10, 7.	0111000110	669	10, 7.	0100001010
620	10, 7.	0011011100	670	10, 7.	*0011010001
621	10, 7.	1011010111	671	10, 7.	*0110110010
622	10, 7.	*0110001101	672	10, 7.	11110111000
623	10, 7.	0110101111	673	10, 7.	0001010100
624	10, 7.	1110011110	674	10, 7.	1000001100
625	10, 7.	1110010111	675	10, 7.	1110001100
626	10, 7.	1000111011	676	10, 7.	1110110000
627	10, 7.	*0101100110	677	10, 7.	0110100111
628	10, 7.	*1011111011	678	10, 7.	*0111010101
629	10, 7.	*0001110100	679	10, 7.	*0010011101
630	10, 7.	*0010001011	680	10, 7.	1011000010
631	10, 7.	*1111110101	681	10, 7.	0011111000
632	10, 7.	*0101010100	682	10, 7.	1101110010
633	10, 7.	1101000110	683	10, 7.	1000100000
634	10, 7.	*1000011110	684	10, 7.	0111111100
635	10, 7.	1000101011	685	10, 7.	0101010001
636	10, 7.	1000000111	686	10, 7.	0110001010
637	10, 7.	1011001001	687	10, 7.	0011110000
638	10, 7.	0101111100	688	10, 7.	0010110111
639	10, 7.	*0010001101	689	10, 7.	*0111111001
640	10, 7.	0110011100	690	10, 7.	1110110001
641	10, 7.	1110011011	691	10, 7.	*0011011101
642	10, 7.	1000011111	692	10, 7.	0001100001
643	10, 7.	*0011110101	693	10, 7.	1110101110
644	10, 7.	1111010111	694	10, 7.	*1001111010
645	10, 7.	10000001000	695	10, 7.	1110100010
646	10, 7.	0010011110	696	10, 7.	*1010000111
647	10, 7.	*1011101111	697	10, 7.	0110100000
648	10, 7.	*1010011000	698	10, 7.	*1010101111
649	10, 7.	0100101000	699	10, 7.	0010010011
650	10, 7.	1011100101	700	10, 7.	*0110011001
651	10, 7.	1001111100	701	10, 7.	0111111111
652	10, 7.	1001101010	702	10, 7.	*1100011100
653	10, 7.	1101100110	703	10, 7.	*0111011001

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
704	10, 7.	1011111000	754	10, 7.	1010110101
705	10, 7.	*0110001100	755	10, 7.	1110011111
706	10, 7.	1110011000	756	10, 7.	*1010100110
707	10, 7.	1101111000	757	10, 7.	1011000100
708	10, 7.	1000000100	758	10, 7.	*1100110011
709	10, 7.	0100110100	759	10, 7.	*0100001110
710	10, 7.	1100010101	760	10, 7.	0111010001
711	10, 7.	0111011010	761	10, 7.	1000100101
712	10, 7.	1101001101	762	10, 7.	*0000111101
713	10, 7.	0110111010	763	10, 7.	1111100010
714	10, 7.	0111110110	764	10, 7.	0000011100
715	10, 7.	0000100100	765	10, 7.	*1111000111
716	10, 7.	*1101011000	766	10, 7.	1010010111
717	10, 7.	1100111100	767	10, 7.	*0100110111
718	10, 7.	0011010111	768	10, 7.	0000100111
719	10, 7.	0010000000	769	10, 7.	0000100001
720	10, 7.	*11000001000	770	10, 7.	*0111011101
721	10, 7.	*0011001111	771	10, 7.	1001101100
722	10, 7.	0100100000	772	10, 7.	*0110101100
723	10, 7.	0110000101	773	10, 7.	0111000111
724	10, 7.	*0001001110	774	10, 7.	1010001001
725	10, 7.	00000011111	775	10, 7.	0000011011
726	10, 7.	1100000001	776	10, 7.	1011100100
727	10, 7.	*01100010001	777	10, 7.	10110111011
728	10, 7.	10000011010	778	10, 7.	*1000111101
729	10, 7.	0100010010	779	10, 7.	0100101011
730	10, 7.	1111111011	780	10, 7.	0110101011
731	10, 7.	1110001111	781	10, 7.	0001000001
732	10, 7.	*1011010110	782	10, 7.	0110111001
733	10, 7.	*1010000010	783	10, 7.	0011100011
734	10, 7.	0111101100	784	10, 7.	0101110001
735	10, 7.	*0000101111	785	10, 7.	0000110000
736	10, 7.	1100100110	786	10, 7.	0000101100
737	10, 7.	*11000001100	787	10, 7.	1111110110
738	10, 7.	1010001010	788	10, 7.	1111011001
739	10, 7.	00000010001	789	10, 7.	*0101000001
740	10, 7.	1111101011	790	10, 7.	1101111110
741	10, 7.	10010111000	791	10, 7.	1100011011
742	10, 7.	0111100110	792	10, 7.	1101101011
743	10, 7.	*0011101001	793	10, 7.	0010111000
744	10, 7.	0101111101	794	10, 7.	1001110100
745	10, 7.	1001000001	795	10, 7.	0110110110
746	10, 7.	0111000001	796	10, 7.	1000110001
747	10, 7.	1100111001	797	10, 7.	1010110100
748	10, 7.	*0001000010	798	10, 7.	1000010101
749	10, 7.	0011101111	799	10, 7.	0001100110
750	10, 7.	1000111110	800	10, 7.	*1001000101
751	10, 7.	0111100111	801	10, 7.	1110010100
752	10, 7.	1111100111	802	10, 7.	0000000111
753	10, 7.	0110011000	803	10, 7.	1110100110

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
804	10, 7.	*1100010011	854	10, 7.	1011110111
805	10, 7.	*1010100011	855	10, 7.	0100110001
806	10, 7.	1101110101	856	10, 7.	*0101110111
807	10, 7.	0000101011	857	10, 7.	0000110101
808	10, 7.	*0100100011	858	10, 7.	1011001000
809	10, 7.	0010111011	859	10, 7.	1101000001
810	10, 7.	*0101111010	860	10, 7.	1101000010
811	10, 7.	0011110110	861	10, 7.	0010010110
812	10, 7.	1001110010	862	10, 7.	0001111100
813	10, 7.	1101110100	863	10, 7.	0001110111
814	10, 7.	0110100110	864	10, 7.	1111001011
815	10, 7.	0011011000	865	10, 7.	*1111110010
816	10, 7.	0011101110	866	10, 7.	1001011011
817	10, 7.	0111110011	867	10, 7.	0011110001
818	10, 7.	0000111011	868	10, 7.	0111010000
819	10, 7.	1110000001	869	10, 7.	0000001001
820	10, 7.	1101010011	870	10, 7.	1011011010
821	10, 7.	1101101000	871	10, 7.	1000000000
822	10, 7.	0110111111	872	10, 7.	1100101110
823	10, 7.	1001001101	873	10, 7.	1111001111
824	10, 7.	0111011100	874	10, 7.	1100011111
825	10, 7.	0001101000	875	10, 7.	0011010110
826	10, 7.	*1000111000	876	10, 7.	1001010000
827	10, 7.	0011111111	877	10, 7.	1101001100
828	10, 7.	0101101001	878	10, 7.	1000000011
829	10, 7.	0100000111	879	10, 7.	0000001111
830	10, 7.	1000100100	880	10, 7.	0111001010
831	10, 7.	1100001101	881	10, 7.	1010010100
832	10, 7.	0001010101	882	10, 7.	1010110000
833	10, 7.	0010111100	883	10, 7.	1100100101
834	10, 7.	0010000001	884	10, 7.	0010100100
835	10, 7.	1000101111	885	10, 7.	1101010111
836	10, 7.	*0111000010	886	10, 7.	1000101110
837	10, 7.	1010111001	887	10, 7.	1011101100
838	10, 7.	0001101001	888	10, 7.	0011010010
839	10, 7.	0010100011	889	10, 7.	0101011100
840	10, 7.	1101010110	890	10, 7.	1100101001
841	10, 7.	0010010101	891	10, 7.	0111001001
842	10, 7.	1111000010	892	10, 7.	*0010001100
843	10, 7.	1010100101	893	10, 7.	1101100000
844	10, 7.	0100110000	894	10, 7.	1111101101
845	10, 7.	0001101110	895	10, 7.	1011011101
846	10, 7.	0011000000	896	10, 7.	0110000100
847	10, 7.	*0101010000	897	10, 7.	0010101001
848	10, 7.	1100111000	898	10, 7.	1111101100
849	10, 7.	*1111001010	899	10, 7.	1000010110
850	10, 7.	1011001101	900	10, 7.	0000110110
851	10, 7.	0100011101	901	10, 7.	0101000100
852	10, 7.	0110110001	902	10, 7.	0010100101
853	10, 7.	0100000001	903	10, 7.	1110100111

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
904	10, 7.	1100010000	954	10, 7.	*1111111101
905	10, 7.	0001111001	955	10, 7.	1010101001
906	10, 7.	0011100111	956	10, 7.	1111111010
907	10, 7.	1001010101	957	10, 7.	1001100111
908	10, 7.	0110010000	958	10, 7.	0101100010
909	10, 7.	0001011001	959	10, 7.	0100111101
910	10, 7.	0000011000	960	10, 7.	1100000100
911	10, 7.	0000101010	961	10, 7.	1100011010
912	10, 7.	0101011010	962	10, 7.	0101101010
913	10, 7.	1001001000	963	10, 7.	1011001100
914	10, 7.	1110000111	964	10, 7.	1100110101
915	10, 7.	0100000110	965	10, 7.	*1110111101
916	10, 7.	0100010110	966	10, 7.	1000110101
917	10, 7.	*0000111010	967	10, 7.	0110000010
918	10, 7.	1001111011	968	10, 7.	0010100000
919	10, 7.	0010110001	969	10, 7.	0101001001
920	10, 7.	0111110101	970	10, 7.	1110010010
921	10, 7.	1011000111	971	10, 7.	0110010100
922	10, 7.	0111100010	972	10, 7.	1110101111
923	10, 7.	0100101101	973	10, 7.	0001001111
924	10, 7.	0110100001	974	10, 7.	1010011011
925	10, 7.	0000011110	975	10, 7.	0111101000
926	10, 7.	0111001101	976	10, 7.	0110001011
927	10, 7.	0101001110	977	10, 7.	1101001000
928	10, 7.	0010011001	978	10, 7.	1110001000
929	10, 7.	0000000110	979	10, 7.	1110110110
930	10, 7.	01000010101	980	10, 7.	1101111101
931	10, 7.	1110000110	981	10, 7.	0101111001
932	10, 7.	0110011101	982	10, 7.	1000101010
933	10, 7.	10100001100	983	10, 7.	0010011010
934	10, 7.	0010101010	984	10, 7.	0011011111
935	10, 7.	1001110011	985	10, 7.	0010000100
936	10, 7.	1011100000	986	10, 7.	1110101000
937	10, 7.	1101011111	987	10, 7.	0101001101
938	10, 7.	0011000010	988	10, 7.	1110101010
939	10, 7.	1111010110	989	10, 7.	1100000101
940	10, 7.	1010011101	990	10, 7.	0010101111
941	10, 7.	0011100110	991	10, 7.	1001011111
942	10, 7.	0100011011	992	10, 7.	1011010001
943	10, 7.	1010111110	993	10, 7.	1110101001
944	10, 7.	0101110000	994	10, 7.	0001011110
945	10, 7.	0110110101	995	10, 7.	1001000000
946	10, 7.	00000000100	996	10, 7.	0001100111
947	10, 7.	0000000001	997	10, 7.	0101011011
948	10, 7.	1101101101	998	10, 7.	0100101110
949	10, 7.	0100111010	999	10, 7.	*1111100011
950	10, 7.	0111101011	1000	10, 7.	*0011100010
951	10, 7.	0100001111	1001	10, 7.	0001011000
952	10, 7.	0100011000	1002	10, 7.	1101110111
953	10, 7.	0011001110	1003	10, 7.	0010010010

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1004	10, 7.	1100001001	1054	11, 9.	*10000000100
1005	10, 7.	0101101110	1055	11, 9.	00010100011
1006	10, 7.	0111001110	1056	11, 9.	11100110111
1007	10, 7.	1100111111	1057	11, 9.	01000100001
1008	10, 7.	1101000111	1058	11, 9.	*11111011110
1009	10, 7.	0000100000	1059	11, 9.	*10010110011
1010	10, 7.	1001110101	1060	11, 9.	*11101011000
1011	10, 7.	1111100100	1061	11, 9.	*11110010001
1012	10, 7.	1010110001	1062	11, 9.	00101000111
1013	10, 7.	0000010010	1063	11, 9.	*11000000010
1014	10, 7.	0011101000	1064	11, 9.	*10011101010
1015	10, 7.	1001011100	1065	11, 9.	*01101101011
1016	10, 7.	0100000000	1066	11, 9.	00010011011
1017	10, 7.	1001101011	1067	11, 9.	11100001101
1018	10, 7.	1000010010	1068	11, 9.	00000111011
1019	10, 7.	1110111001	1069	11, 9.	*10001001001
1020	10, 7.	0100100110	1070	11, 9.	*00010111000
1021	10, 7.	0101010111	1071	11, 9.	*01000101101
1022	10, 7.	*1111111100	1072	11, 9.	11101101111
1023	10, 7.		1073	11, 9.	*11110111111
1024	11, 9.	11110101011	1074	11, 9.	*10001111000
1025	11, 9.	*00100011100	1075	11, 9.	*00111100100
1026	11, 9.	00111010001	1076	11, 9.	10100111110
1027	11, 9.	10110110100	1077	11, 9.	00110010010
1028	11, 9.	00000000011	1078	11, 9.	*00100111111
1029	11, 9.	00000000111	1079	11, 9.	00111111100
1030	11, 9.	11011011010	1080	11, 9.	01100110101
1031	11, 9.	*01011100101	1081	11, 9.	11100111000
1032	11, 9.	*11100010011	1082	11, 9.	*00101111100
1033	11, 9.	11000010001	1083	11, 9.	01111001110
1034	11, 9.	*01110010010	1084	11, 9.	*10101011011
1035	11, 9.	10100001110	1085	11, 9.	*00100000100
1036	11, 9.	*01111011100	1086	11, 9.	01001000010
1037	11, 9.	11011011001	1087	11, 9.	*00100001100
1038	11, 9.	01110100101	1088	11, 9.	*10110101101
1039	11, 9.	*00101110001	1089	11, 9.	00010111101
1040	11, 9.	10110110011	1090	11, 9.	*11000010100
1041	11, 9.	*10111101110	1091	11, 9.	00010101010
1042	11, 9.	00111011111	1092	11, 9.	10101100111
1043	11, 9.	01001010100	1093	11, 9.	*01101110001
1044	11, 9.	*11000110110	1094	11, 9.	*00010010000
1045	11, 9.	*00101101101	1095	11, 9.	11100001100
1046	11, 9.	*10010001101	1096	11, 9.	10100011100
1047	11, 9.	11101010001	1097	11, 9.	00001000000
1048	11, 9.	*11011111000	1098	11, 9.	*10011111010
1049	11, 9.	*00101111111	1099	11, 9.	*10001100101
1050	11, 9.	11100001011	1100	11, 9.	00111001011
1051	11, 9.	*11000100001	1101	11, 9.	*01000011110
1052	11, 9.	*11001010101	1102	11, 9.	10101011101
1053	11, 9.	11110101111	1103	11, 9.	*00110100010

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1104	11, 9.	11011101110	1154	11, 9.	11011110110
1105	11, 9.	00101100010	1155	11, 9.	01111000100
1106	11, 9.	00101010101	1156	11, 9.	11001111001
1107	11, 9.	*11100001010	1157	11, 9.	11100101110
1108	11, 9.	11100100111	1158	11, 9.	*01010001110
1109	11, 9.	*00011011010	1159	11, 9.	11001000100
1110	11, 9.	11001101010	1160	11, 9.	*11101000010
1111	11, 9.	10011111110	1161	11, 9.	01010100101
1112	11, 9.	*00111110100	1162	11, 9.	00101011000
1113	11, 9.	00000100000	1163	11, 9.	01000101011
1114	11, 9.	00101001011	1164	11, 9.	00000011111
1115	11, 9.	10100000000	1165	11, 9.	*10111001010
1116	11, 9.	*00010110101	1166	11, 9.	01101101101
1117	11, 9.	*10001101011	1167	11, 9.	*01100100011
1118	11, 9.	01110111110	1168	11, 9.	*01011000011
1119	11, 9.	*10110000011	1169	11, 9.	*10111000001
1120	11, 9.	*01110101111	1170	11, 9.	10101011000
1121	11, 9.	*00101100001	1171	11, 9.	00100100101
1122	11, 9.	*11100011000	1172	11, 9.	*11110000111
1123	11, 9.	10010101111	1173	11, 9.	10001000001
1124	11, 9.	10000001010	1174	11, 9.	*11010111111
1125	11, 9.	00011010101	1175	11, 9.	00000001100
1126	11, 9.	01111110000	1176	11, 9.	10001010000
1127	11, 9.	*01101100101	1177	11, 9.	*11110110011
1128	11, 9.	10110011011	1178	11, 9.	*10101110001
1129	11, 9.	*11101100111	1179	11, 9.	*00001110010
1130	11, 9.	*11000010000	1180	11, 9.	11000100101
1131	11, 9.	11111011011	1181	11, 9.	*10110100011
1132	11, 9.	01011100001	1182	11, 9.	10110001111
1133	11, 9.	10101000010	1183	11, 9.	*01110111010
1134	11, 9.	*00011000010	1184	11, 9.	*10100101011
1135	11, 9.	00010001000	1185	11, 9.	10000101000
1136	11, 9.	*01011101101	1186	11, 9.	01101111110
1137	11, 9.	*01011010001	1187	11, 9.	01011111101
1138	11, 9.	11010111100	1188	11, 9.	*10111100110
1139	11, 9.	*01000110111	1189	11, 9.	10011011111
1140	11, 9.	*01110001000	1190	11, 9.	01100111010
1141	11, 9.	*11110001101	1191	11, 9.	00111010101
1142	11, 9.	11100111101	1192	11, 9.	01011100000
1143	11, 9.	11111101000	1193	11, 9.	*00010101011
1144	11, 9.	*01101100010	1194	11, 9.	10001010111
1145	11, 9.	100011100010	1195	11, 9.	00010101100
1146	11, 9.	*00110100101	1196	11, 9.	01110110001
1147	11, 9.	*00000100100	1197	11, 9.	10000100011
1148	11, 9.	*00011011101	1198	11, 9.	*11110001001
1149	11, 9.	11111100011	1199	11, 9.	10000110110
1150	11, 9.	00110011000	1200	11, 9.	00000100101
1151	11, 9.	*11001110011	1201	11, 9.	*01011011010
1152	11, 9.	11111010010	1202	11, 9.	*11100011011
1153	11, 9.	*01101100011	1203	11, 9.	*00111000100

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1204	11, 9.	*11111001011	1254	11, 9.	*11000101101
1205	11, 9.	*11010110110	1255	11, 9.	*01100110011
1206	11, 9.	*11101100110	1256	11, 9.	01110110010
1207	11, 9.	01000101000	1257	11, 9.	*00011111000
1208	11, 9.	*00101010000	1258	11, 9.	*10100111000
1209	11, 9.	*01010110010	1259	11, 9.	00011000100
1210	11, 9.	10100000011	1260	11, 9.	10100010111
1211	11, 9.	10110111100	1261	11, 9.	*00000111101
1212	11, 9.	00001010110	1262	11, 9.	11011000110
1213	11, 9.	*10000101110	1263	11, 9.	11000010101
1214	11, 9.	*10000001111	1264	11, 9.	00000011100
1215	11, 9.	*10101111101	1265	11, 9.	*10110001110
1216	11, 9.	*11001011010	1266	11, 9.	10111111101
1217	11, 9.	*11110111011	1267	11, 9.	*11110011100
1218	11, 9.	*11000000101	1268	11, 9.	*01101001010
1219	11, 9.	*00101100110	1269	11, 9.	01000111001
1220	11, 9.	*11111101111	1270	11, 9.	11110000110
1221	11, 9.	*10111000000	1271	11, 9.	*01011111000
1222	11, 9.	00011101000	1272	11, 9.	01110011100
1223	11, 9.	10110000010	1273	11, 9.	*11111010011
1224	11, 9.	11011100001	1274	11, 9.	01111010001
1225	11, 9.	10110101100	1275	11, 9.	*00110100011
1226	11, 9.	*00100001010	1276	11, 9.	11101000101
1227	11, 9.	*11010101000	1277	11, 9.	11001111101
1228	11, 9.	10100011001	1278	11, 9.	01111101010
1229	11, 9.	00110011110	1279	11, 9.	*10011100001
1230	11, 9.	00110111001	1280	11, 9.	*11000110001
1231	11, 9.	11110000011	1281	11, 9.	*10010110000
1232	11, 9.	00001100111	1282	11, 9.	*10000001100
1233	11, 9.	10011110101	1283	11, 9.	01100011110
1234	11, 9.	100100010101	1284	11, 9.	*11011010001
1235	11, 9.	*10011001101	1285	11, 9.	01010010010
1236	11, 9.	*01101110000	1286	11, 9.	*01010000001
1237	11, 9.	*01000001000	1287	11, 9.	00001100000
1238	11, 9.	*11010101101	1288	11, 9.	10010101110
1239	11, 9.	*00001111010	1289	11, 9.	*01111010110
1240	11, 9.	01010001011	1290	11, 9.	*11011110000
1241	11, 9.	*11101111110	1291	11, 9.	10111111101
1242	11, 9.	01110110111	1292	11, 9.	*10001000111
1243	11, 9.	01001001100	1293	11, 9.	11111101110
1244	11, 9.	*00101000110	1294	11, 9.	*10000100110
1245	11, 9.	01100011101	1295	11, 9.	00111001000
1246	11, 9.	00110010011	1296	11, 9.	10110010101
1247	11, 9.	01011000100	1297	11, 9.	10111111101
1248	11, 9.	*01101000001	1298	11, 9.	10110111111
1249	11, 9.	10010111010	1299	11, 9.	11101010110
1250	11, 9.	*01101100100	1300	11, 9.	*11111010100
1251	11, 9.	*11111000111	1301	11, 9.	00110110000
1252	11, 9.	00001000001	1302	11, 9.	*01100110100
1253	11, 9.	01010100100	1303	11, 9.	10000010100

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1304	11, 9.	10101110110	1354	11, 9.	*00001110110
1305	11, 9.	*10011001011	1355	11, 9.	*01100000110
1306	11, 9.	10110001010	1356	11, 9.	10111011111
1307	11, 9.	*00111000111	1357	11, 9.	10101101001
1308	11, 9.	*10001101000	1358	11, 9.	11110110010
1309	11, 9.	*11001100110	1359	11, 9.	00001010001
1310	11, 9.	01011101011	1360	11, 9.	11010010101
1311	11, 9.	10100000110	1361	11, 9.	11111001110
1312	11, 9.	10010101000	1362	11, 9.	*10011011000
1313	11, 9.	00011101111	1363	11, 9.	10010001001
1314	11, 9.	*10011000011	1364	11, 9.	*10101000111
1315	11, 9.	01000100110	1365	11, 9.	11011111110
1316	11, 9.	10010111100	1366	11, 9.	*01100011011
1317	11, 9.	11110011111	1367	11, 9.	001110111100
1318	11, 9.	11101001110	1368	11, 9.	*10100101110
1319	11, 9.	01010010001	1369	11, 9.	*11111100110
1320	11, 9.	10111010001	1370	11, 9.	*01110001111
1321	11, 9.	*10111110001	1371	11, 9.	01011000101
1322	11, 9.	11110101000	1372	11, 9.	11101110111
1323	11, 9.	01101111001	1373	11, 9.	01001001001
1324	11, 9.	11010000001	1374	11, 9.	00111101100
1325	11, 9.	*00101010011	1375	11, 9.	*00111100101
1326	11, 9.	01110001001	1376	11, 9.	11010100011
1327	11, 9.	*01101101010	1377	11, 9.	*01001000110
1328	11, 9.	*01001100000	1378	11, 9.	01101110100
1329	11, 9.	*00111000010	1379	11, 9.	10010001000
1330	11, 9.	00011111110	1380	11, 9.	*10110111011
1331	11, 9.	11000001001	1381	11, 9.	01011001001
1332	11, 9.	*11001101111	1382	11, 9.	01110010111
1333	11, 9.	01110011101	1383	11, 9.	*01000110010
1334	11, 9.	*11100011100	1384	11, 9.	*10001011010
1335	11, 9.	11000001100	1385	11, 9.	*00001011100
1336	11, 9.	00100101110	1386	11, 9.	10000101011
1337	11, 9.	01001100111	1387	11, 9.	11101100011
1338	11, 9.	10001111001	1388	11, 9.	11010111001
1339	11, 9.	00001010010	1389	11, 9.	00110010100
1340	11, 9.	*11001001011	1390	11, 9.	*01001100001
1341	11, 9.	00001101100	1391	11, 9.	00000010100
1342	11, 9.	*11111000100	1392	11, 9.	01001010111
1343	11, 9.	00000110100	1393	11, 9.	01000001011
1344	11, 9.	00010011101	1394	11, 9.	10000011001
1345	11, 9.	01111111010	1395	11, 9.	*11110001110
1346	11, 9.	10010110101	1396	11, 9.	*10110110010
1347	11, 9.	*00010011000	1397	11, 9.	11110100011
1348	11, 9.	*11001101011	1398	11, 9.	10111101001
1349	11, 9.	*10100010001	1399	11, 9.	10111100011
1350	11, 9.	00101111011	1400	11, 9.	*00010001110
1351	11, 9.	01111000000	1401	11, 9.	01011111110
1352	11, 9.	01001001101	1402	11, 9.	01100101100
1353	11, 9.	00101010100	1403	11, 9.	00010010110

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1404	11, 9.	00001011101	1454	11, 9.	11110110111
1405	11, 9.	*01101011100	1455	11, 9.	*10001110110
1406	11, 9.	00010000100	1456	11, 9.	10011100110
1407	11, 9.	*00101001100	1457	11, 9.	00011001100
1408	11, 9.	11000101000	1458	11, 9.	11101110011
1409	11, 9.	11011000011	1459	11, 9.	01100000011
1410	11, 9.	11101011101	1460	11, 9.	00111010110
1411	11, 9.	*10110100101	1461	11, 9.	*10011011110
1412	11, 9.	10010100001	1462	11, 9.	11100000100
1413	11, 9.	*11000111000	1463	11, 9.	01001011111
1414	11, 9.	11101101001	1464	11, 9.	11011001010
1415	11, 9.	00110000101	1465	11, 9.	00111111000
1416	11, 9.	01010100001	1466	11, 9.	11100000101
1417	11, 9.	10111111110	1467	11, 9.	*11000111110
1418	11, 9.	10100001011	1468	11, 9.	*00010100111
1419	11, 9.	10100101111	1469	11, 9.	*01101001011
1420	11, 9.	*00011001011	1470	11, 9.	01110101110
1421	11, 9.	01001111101	1471	11, 9.	11100100001
1422	11, 9.	11010110010	1472	11, 9.	*10100011010
1423	11, 9.	11001000010	1473	11, 9.	*01111100101
1424	11, 9.	10101100000	1474	11, 9.	10011101101
1425	11, 9.	11010000000	1475	11, 9.	*11000110000
1426	11, 9.	10111010000	1476	11, 9.	10111001011
1427	11, 9.	00001011000	1477	11, 9.	10000100101
1428	11, 9.	00011010100	1478	11, 9.	00110101011
1429	11, 9.	11100110010	1479	11, 9.	*01011010101
1430	11, 9.	00111100011	1480	11, 9.	*01000011111
1431	11, 9.	01011110000	1481	11, 9.	01001010010
1432	11, 9.	10101101010	1482	11, 9.	00100111100
1433	11, 9.	10101111011	1483	11, 9.	10101100110
1434	11, 9.	10000000111	1484	11, 9.	11100101101
1435	11, 9.	01001010011	1485	11, 9.	00000000110
1436	11, 9.	*01000010101	1486	11, 9.	10100111011
1437	11, 9.	11011010110	1487	11, 9.	*10011010111
1438	11, 9.	*00011000011	1488	11, 9.	10110101000
1439	11, 9.	*01100111001	1489	11, 9.	00111101101
1440	11, 9.	*00011111001	1490	11, 9.	11001111000
1441	11, 9.	01110000000	1491	11, 9.	11110010010
1442	11, 9.	10001111110	1492	11, 9.	01000110110
1443	11, 9.	*11100000010	1493	11, 9.	10011001110
1444	11, 9.	*11010110001	1494	11, 9.	*11111111101
1445	11, 9.	*11001011001	1495	11, 9.	01010101001
1446	11, 9.	10101000110	1496	11, 9.	11111111011
1447	11, 9.	*00011110010	1497	11, 9.	11001100111
1448	11, 9.	*10001011011	1498	11, 9.	*01100010110
1449	11, 9.	10101010010	1499	11, 9.	10110000100
1450	11, 9.	*01111111110	1500	11, 9.	*00100011101
1451	11, 9.	01000100010	1501	11, 9.	11011110001
1452	11, 9.	10100110111	1502	11, 9.	*001101111100
1453	11, 9.	*11010010001	1503	11, 9.	10011101011

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1504	11, 9.	01000111111	1554	11, 9.	10101011110
1505	11, 9.	*11101111001	1555	11, 9.	00000111100
1506	11, 9.	*11110001010	1556	11, 9.	11001001010
1507	11, 9.	10111001101	1557	11, 9.	*10011000110
1508	11, 9.	*10111110111	1558	11, 9.	01001111001
1509	11, 9.	10110001001	1559	11, 9.	00011001000
1510	11, 9.	*01100001011	1560	11, 9.	10111010100
1511	11, 9.	11011001001	1561	11, 9.	11010010000
1512	11, 9.	*00100010101	1562	11, 9.	*10100011101
1513	11, 9.	00101110111	1563	11, 9.	11110010111
1514	11, 9.	00101100111	1564	11, 9.	*10100110110
1515	11, 9.	01000010110	1565	11, 9.	11010100101
1516	11, 9.	11011111111	1566	11, 9.	10010000000
1517	11, 9.	11100111011	1567	11, 9.	10010000111
1518	11, 9.	*11110100010	1568	11, 9.	00111101000
1519	11, 9.	10111001110	1569	11, 9.	00000010101
1520	11, 9.	00010000011	1570	11, 9.	11101001111
1521	11, 9.	*01111000011	1571	11, 9.	10010111001
1522	11, 9.	10001000110	1572	11, 9.	01000000000
1523	11, 9.	01100101011	1573	11, 9.	01011110001
1524	11, 9.	00011100100	1574	11, 9.	00110111010
1525	11, 9.	*00110110001	1575	11, 9.	10000010010
1526	11, 9.	11111100111	1576	11, 9.	*11000001101
1527	11, 9.	10101101110	1577	11, 9.	10000111011
1528	11, 9.	10011010010	1578	11, 9.	01100011010
1529	11, 9.	11110100101	1579	11, 9.	*01110010100
1530	11, 9.	*10100100000	1580	11, 9.	00000001111
1531	11, 9.	10101000001	1581	11, 9.	10000000001
1532	11, 9.	01100100110	1582	11, 9.	01001110100
1533	11, 9.	00000111111	1583	11, 9.	10001100011
1534	11, 9.	11101100010	1584	11, 9.	11001110000
1535	11, 9.	10001010110	1585	11, 9.	*00011101011
1536	11, 9.	10110000111	1586	11, 9.	*01111100000
1537	11, 9.	*10110010001	1587	11, 9.	11011001111
1538	11, 9.	*00011111101	1588	11, 9.	11011001100
1539	11, 9.	01011010000	1589	11, 9.	*11101011011
1540	11, 9.	00101000001	1590	11, 9.	11000000011
1541	11, 9.	10010000100	1591	11, 9.	00000001100
1542	11, 9.	01101011001	1592	11, 9.	01101011111
1543	11, 9.	11101110000	1593	11, 9.	00111001101
1544	11, 9.	11010010100	1594	11, 9.	10011011001
1545	11, 9.	01110111111	1595	11, 9.	*11000101001
1546	11, 9.	11011110111	1596	11, 9.	01100001100
1547	11, 9.	11101000001	1597	11, 9.	00010001111
1548	11, 9.	11111110101	1598	11, 9.	11001010011
1549	11, 9.	00001001110	1599	11, 9.	01101001100
1550	11, 9.	10011010100	1600	11, 9.	11001001101
1551	11, 9.	*00001101101	1601	11, 9.	11010100000
1552	11, 9.	*00001001111	1602	11, 9.	*10010110100
1553	11, 9.	00101101100	1603	11, 9.	*01010111110

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1604	11, 9.	00011010000	1654	11, 9.	00111110111
1605	11, 9.	00001001010	1655	11, 9.	00111000001
1606	11, 9.	11000011011	1656	11, 9.	10010011011
1607	11, 9.	10001001101	1657	11, 9.	10110100110
1608	11, 9.	11001100001	1658	11, 9.	*00101001000
1609	11, 9.	10011110000	1659	11, 9.	01100101000
1610	11, 9.	*01001111110	1660	11, 9.	111010111100
1611	11, 9.	00010000111	1661	11, 9.	10001101101
1612	11, 9.	10101010011	1662	11, 9.	01111001001
1613	11, 9.	01100001101	1663	11, 9.	01001101110
1614	11, 9.	10001101100	1664	11, 9.	00100010001
1615	11, 9.	10100101010	1665	11, 9.	10110111010
1616	11, 9.	00000001001	1666	11, 9.	00100100010
1617	11, 9.	01111010111	1667	11, 9.	01000001111
1618	11, 9.	*01111100100	1668	11, 9.	11110100010
1619	11, 9.	11111100000	1669	11, 9.	*11111101001
1620	11, 9.	00001101010	1670	11, 9.	11010101011
1621	11, 9.	00010010111	1671	11, 9.	11000011000
1622	11, 9.	*00001110011	1672	11, 9.	*11100010100
1623	11, 9.	*00110001100	1673	11, 9.	*11110111100
1624	11, 9.	01100100101	1674	11, 9.	10100010000
1625	11, 9.	11010011111	1675	11, 9.	*00110000001
1626	11, 9.	00110101100	1676	11, 9.	01001100100
1627	11, 9.	00000110111	1677	11, 9.	11011100010
1628	11, 9.	00100101101	1678	11, 9.	01010110011
1629	11, 9.	10110010110	1679	11, 9.	10010000011
1630	11, 9.	00010001011	1680	11, 9.	01011101010
1631	11, 9.	11111110110	1681	11, 9.	00010110010
1632	11, 9.	10101010100	1682	11, 9.	10111011011
1633	11, 9.	11010001101	1683	11, 9.	00101011111
1634	11, 9.	11000011110	1684	11, 9.	11101101110
1635	11, 9.	*10000011100	1685	11, 9.	*11101001000
1636	11, 9.	*10010010110	1686	11, 9.	11101111101
1637	11, 9.	00000101001	1687	11, 9.	11000110101
1638	11, 9.	*10110011010	1688	11, 9.	11000011101
1639	11, 9.	*10001011100	1689	11, 9.	00001000110
1640	11, 9.	*01111101110	1690	11, 9.	10111011000
1641	11, 9.	01011100110	1691	11, 9.	*00010111001
1642	11, 9.	00000111000	1692	11, 9.	*01011001101
1643	11, 9.	01100001010	1693	11, 9.	*01100000010
1644	11, 9.	111101110100	1694	11, 9.	01010001000
1645	11, 9.	01010111000	1695	11, 9.	00110001111
1646	11, 9.	10111000111	1696	11, 9.	11100101010
1647	11, 9.	*01010100000	1697	11, 9.	00100011000
1648	11, 9.	00100010100	1698	11, 9.	10101111110
1649	11, 9.	11011011100	1699	11, 9.	11000100000
1650	11, 9.	00010101111	1700	11, 9.	11110000000
1651	11, 9.	10101001101	1701	11, 9.	10010111101
1652	11, 9.	01100010111	1702	11, 9.	11001110110
1653	11, 9.	*01010011111	1703	11, 9.	01101111111

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1704	11, 9.	11010100100	1754	11, 9.	01110011011
1705	11, 9.	00001100110	1755	11, 9.	*01111000101
1706	11, 9.	01110101011	1756	11, 9.	*11100010111
1707	11, 9.	*11110011000	1757	11, 9.	00110110100
1708	11, 9.	11010101100	1758	11, 9.	11001000101
1709	11, 9.	01011011111	1759	11, 9.	10001001110
1710	11, 9.	01001000111	1760	11, 9.	11011010000
1711	11, 9.	11011101111	1761	11, 9.	001001110001
1712	11, 9.	01010111101	1762	11, 9.	*00111110001
1713	11, 9.	*00000011001	1763	11, 9.	01110111111
1714	11, 9.	*01001011000	1764	11, 9.	01100111101
1715	11, 9.	00100110010	1765	11, 9.	11010001100
1716	11, 9.	01110000111	1766	11, 9.	00010000010
1717	11, 9.	11001001100	1767	11, 9.	01111100011
1718	11, 9.	10110011111	1768	11, 9.	11011101000
1719	11, 9.	00110000000	1769	11, 9.	*10100100011
1720	11, 9.	*00001000101	1770	11, 9.	01010011011
1721	11, 9.	10010100100	1771	11, 9.	00001010111
1722	11, 9.	*10001010011	1772	11, 9.	01011001100
1723	11, 9.	11001101100	1773	11, 9.	10010011110
1724	11, 9.	01110101010	1774	11, 9.	01101010001
1725	11, 9.	00110011101	1775	11, 9.	*01001101011
1726	11, 9.	11110111000	1776	11, 9.	11101001001
1727	11, 9.	11010000111	1777	11, 9.	11011100110
1728	11, 9.	*01001011100	1778	11, 9.	10001100110
1729	11, 9.	10011101110	1779	11, 9.	01001011001
1730	11, 9.	00100110110	1780	11, 9.	11111110010
1731	11, 9.	10011100000	1781	11, 9.	*00110111101
1732	11, 9.	11110010100	1782	11, 9.	10101001011
1733	11, 9.	10011110100	1783	11, 9.	11010011011
1734	11, 9.	01111001000	1784	11, 9.	11001011101
1735	11, 9.	*01000111100	1785	11, 9.	10001001010
1736	11, 9.	*00000100001	1786	11, 9.	10101101111
1737	11, 9.	01100000111	1787	11, 9.	11010001011
1738	11, 9.	*10100110011	1788	11, 9.	*10011010001
1739	11, 9.	01100101111	1789	11, 9.	*11001111110
1740	11, 9.	11101110100	1790	11, 9.	01111110101
1741	11, 9.	01101000010	1791	11, 9.	01110000011
1742	11, 9.	01110100011	1792	11, 9.	10101100001
1743	11, 9.	10101001000	1793	11, 9.	01100100000
1744	11, 9.	10000100000	1794	11, 9.	00010011110
1745	11, 9.	100001111100	1795	11, 9.	111001110001
1746	11, 9.	01101000110	1796	11, 9.	10111010101
1747	11, 9.	01100010010	1797	11, 9.	11001000001
1748	11, 9.	*11100000011	1798	11, 9.	01010000101
1749	11, 9.	*00000110010	1799	11, 9.	01011110111
1750	11, 9.	00101011110	1800	11, 9.	11010001000
1751	11, 9.	01110001100	1801	11, 9.	00110001000
1752	11, 9.	01010011000	1802	11, 9.	01010011100
1753	11, 9.	10001000010	1803	11, 9.	01000011000

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1804	11, 9.	00100100001	1854	11, 9.	0101110110
1805	11, 9.	10111011100	1855	11, 9.	01010110101
1806	11, 9.	*00011010001	1856	11, 9.	*10100010100
1807	11, 9.	00011100011	1857	11, 9.	00011000101
1808	11, 9.	00111111111	1858	11, 9.	11001010110
1809	11, 9.	*00101101001	1859	11, 9.	00100111001
1810	11, 9.	01101010000	1860	11, 9.	10110101001
1811	11, 9.	00100000011	1861	11, 9.	10001100000
1812	11, 9.	00101110100	1862	11, 9.	01000101100
1813	11, 9.	10110100000	1863	11, 9.	00001100011
1814	11, 9.	00001111110	1864	11, 9.	00100010010
1815	11, 9.	01001110011	1865	11, 9.	*11111111010
1816	11, 9.	01001101010	1866	11, 9.	11000111001
1817	11, 9.	01011011011	1867	11, 9.	00111001110
1818	11, 9.	11101000100	1868	11, 9.	01010000010
1819	11, 9.	00100000111	1869	11, 9.	00101101000
1820	11, 9.	11011100111	1870	11, 9.	10000111101
1821	11, 9.	00001001001	1871	11, 9.	10011100101
1822	11, 9.	00011100101	1872	11, 9.	10100000111
1823	11, 9.	11010111000	1873	11, 9.	00000110001
1824	11, 9.	00000101110	1874	11, 9.	00111101001
1825	11, 9.	00110101010	1875	11, 9.	11111001010
1826	11, 9.	01000000101	1876	11, 9.	*01010001101
1827	11, 9.	01011111001	1877	11, 9.	10100100110
1828	11, 9.	01100010001	1878	11, 9.	01111011010
1829	11, 9.	00011100010	1879	11, 9.	01011010100
1830	11, 9.	10011000111	1880	11, 9.	00101111000
1831	11, 9.	10000001011	1881	11, 9.	10100001101
1832	11, 9.	*11111011101	1882	11, 9.	01010111001
1833	11, 9.	*11000101110	1883	11, 9.	10000011111
1834	11, 9.	*00111100010	1884	11, 9.	00010010001
1835	11, 9.	10010011000	1885	11, 9.	01010110110
1836	11, 9.	00111011011	1886	11, 9.	10111100111
1837	11, 9.	00111110010	1887	11, 9.	00011011100
1838	11, 9.	*10110011100	1888	11, 9.	01010010100
1839	11, 9.	11110101100	1889	11, 9.	01000010001
1840	11, 9.	00011011001	1890	11, 9.	01110010001
1841	11, 9.	00110000110	1891	11, 9.	00110110111
1842	11, 9.	00001110111	1892	11, 9.	10011000010
1843	11, 9.	01110000110	1893	11, 9.	10011001010
1844	11, 9.	01010101101	1894	11, 9.	11000111101
1845	11, 9.	10000111010	1895	11, 9.	11000000110
1846	11, 9.	00100101000	1896	11, 9.	00110001001
1847	11, 9.	00000101111	1897	11, 9.	10100111101
1848	11, 9.	01110100110	1898	11, 9.	00100001101
1849	11, 9.	11011111001	1899	11, 9.	10010100111
1850	11, 9.	00111011010	1900	11, 9.	01000000011
1851	11, 9.	11001100000	1901	11, 9.	11011011111
1852	11, 9.	10010010011	1902	11, 9.	10110010000
1853	11, 9.	10000110111	1903	11, 9.	01010000100

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
1904	11, 9.	10101110000	1954	11, 9.	01000001110
1905	11, 9.	11111011010	1955	11, 9.	01001110010
1906	11, 9.	00010100110	1956	11, 9.	11100101011
1907	11, 9.	11001010010	1957	11, 9.	11010011010
1908	11, 9.	10001110011	1958	11, 9.	11000001000
1909	11, 9.	*01111111101	1959	11, 9.	01011101110
1910	11, 9.	00110011011	1960	11, 9.	00101110000
1911	11, 9.	01001001010	1961	11, 9.	11000100100
1912	11, 9.	01010101100	1962	11, 9.	10010001100
1913	11, 9.	01101000111	1963	11, 9.	01110100000
1914	11, 9.	10111101000	1964	11, 9.	10011111001
1915	11, 9.	00101011011	1965	11, 9.	00111111011
1916	11, 9.	*01000000100	1966	11, 9.	00110101101
1917	11, 9.	00001011011	1967	11, 9.	01110011000
1918	11, 9.	01110110100	1968	11, 9.	00101000000
1919	11, 9.	10001011101	1969	11, 9.	10111101101
1920	11, 9.	10000111000	1970	11, 9.	01000011011
1921	11, 9.	10101001110	1971	11, 9.	00010111100
1922	11, 9.	*01001000001	1972	11, 9.	10111110110
1923	11, 9.	01111010010	1973	11, 9.	00011101100
1924	11, 9.	100000011000	1974	11, 9.	01111011011
1925	11, 9.	00100111000	1975	11, 9.	00010100000
1926	11, 9.	*11110011001	1976	11, 9.	11100100100
1927	11, 9.	01001101101	1977	11, 9.	01100111100
1928	11, 9.	11001110111	1978	11, 9.	11111010111
1929	11, 9.	10001111101	1979	11, 9.	01000111010
1930	11, 9.	100000010001	1980	11, 9.	11011000010
1931	11, 9.	01101001101	1981	11, 9.	11101111010
1932	11, 9.	01101011010	1982	11, 9.	01101111010
1933	11, 9.	10011111101	1983	11, 9.	01111111001
1934	11, 9.	01001111000	1984	11, 9.	11010000100
1935	11, 9.	00100101001	1985	11, 9.	11100100010
1936	11, 9.	100000010101	1986	11, 9.	10100001000
1937	11, 9.	01101010111	1987	11, 9.	01011001000
1938	11, 9.	010000010010	1988	11, 9.	01111110110
1939	11, 9.	000001111011	1989	11, 9.	11011000111
1940	11, 9.	00010110100	1990	11, 9.	01111101001
1941	11, 9.	00100011001	1991	11, 9.	10001110111
1942	11, 9.	111000010010	1992	11, 9.	11111000010
1943	11, 9.	10010101001	1993	11, 9.	01101110101
1944	11, 9.	10010011101	1994	11, 9.	10101111000
1945	11, 9.	10010100010	1995	11, 9.	00001101001
1946	11, 9.	00100001011	1996	11, 9.	000000010011
1947	11, 9.	00011110101	1997	11, 9.	01111101111
1948	11, 9.	01101010110	1998	11, 9.	00101001111
1949	11, 9.	01000110001	1999	11, 9.	11100011111
1950	11, 9.	00111110011	2000	11, 9.	*11111110011
1951	11, 9.	00111010000	2001	11, 9.	*01100110010
1952	11, 9.	01011100000	2002	11, 9.	00100100100
1953	11, 9.	10101110111	2003	11, 9.	01010101010

Table of Period Generators (Cont'd)

Periodicity	Exponents	Word	Periodicity	Exponents	Word
2004	11, 9.	00010110001	2026	11, 9.	00011110100
2005	11, 9.	10000101111	2027	11, 9.	10011110011
2006	11, 9.	11101101010	2028	11, 9.	10111100010
2007	11, 9.	10100100111	2029	11, 9.	00100000000
2008	11, 9.	11011101001	2030	11, 9.	10111110000
2009	11, 9.	00110010111	2031	11, 9.	11111000011
2010	11, 9.	01010010111	2032	11, 9.	00011001101
2011	11, 9.	00000010000	2033	11, 9.	11101010010
2012	11, 9.	10110110111	2034	11, 9.	01111001101
2013	11, 9.	00100110101	2035	11, 9.	11010011110
2014	11, 9.	11100110100	2036	11, 9.	00000001010
2015	11, 9.	11101010111	2037	11, 9.	01101101100
2016	11, 9.	10000110011	2038	11, 9.	10000000000
2017	11, 9.	01000100111	2039	11, 9.	11001011100
2018	11, 9.	01011011100	2040	11, 9.	11100111100
2019	11, 9.	01111110011	2041	11, 9.	00110100100
2020	11, 9.	11111001111	2042	11, 9.	11010110111
2021	11, 9.	01001110111	2043	11, 9.	01110111001
2022	11, 9.	11011010101	2044	11, 9.	10010010000
2023	11, 9.	10111000100	2045	11, 9.	10101010111
2024	11, 9.	10100110010	2046	11, 9.	*11111111100
2025	11, 9.	00000101010	2047	11, 9.	